

It is noted that a good deal depends on the efficiency of accidental or occasional dispersal.—H. C. COWLES.

**The origin of Monocotyledons by self-adaptation.**—A great many years ago HENSLOW proposed the strange theory that Monocotyledons have arisen from Dicotyledons through self-adaptation to an aquatic habitat. Recently he has published<sup>16</sup> further along similar lines; now, however, he regards the notion as a fact instead of a theory, although his line of reasoning is practically unaccepted and is quite out of harmony with the views of modern morphology and ecology. His argument is based on the unsound premise that such formative reactions as those of amphibious plants to water lie at the root of the evolutionary process. No one knows what lies at the root of the evolutionary process, but it is rather certain that it is not this. Water is regarded as causing degeneracy in form and structure, and aquatic seed plants are regarded as degraded land plants. Monocotyledons are supposed to have arisen from Dicotyledons by such degeneracy; non-aquatic Monocotyledons have merely crawled back again upon the land, though retaining their degenerate features. Other authors have regarded Monocotyledons as degenerate Dicotyledons, but self-adaptation as a cause of degeneracy has rarely been postulated; indeed the two ideas, self-adaptation and degeneracy, to the reviewer seem mutually contradictory. A form that is plastic and becomes suited to its environment should not be called degenerate, even though certain organs are reduced or even lost.—H. C. COWLES.

**Anatomy of the node.**—SINNOTT<sup>17</sup> has concluded that the anatomy of the node may be of great service in indicating the relationships of angiosperms. He considers the "trilacunar" type of node as probably the most ancient available type, meaning that there is a foliar supply of three bundles, each causing a gap of its own in the stem cylinder. This type is characteristic of the Amentiferae, and is present in the majority of Ranales and Rosales. Derived by reduction from this type, as indicated by the study of transitional families, is the "unilacunar" type, characteristic of all the Centrospermae and also of numerous families of the Archichlamydeae and Sympetalae. There is also a "multilacunar" type, derived by the "amplification" of the primitive trilacunar type, which reaches its highest development in Polygonales and Umbellales.

In developing the facts, SINNOTT has examined about 400 genera, distributed among 36 orders, and gives a list of families with their number of nodal

<sup>16</sup> HENSLOW, G., The origin of Monocotyledons from Dicotyledons through self-adaptation to a moist or aquatic habit. *Ann. Botany* 25:717-744. 1911; see also *Jour. Roy. Hort. Soc.* 37:88-94, 289-294. 1911.

<sup>17</sup> SINNOTT, E. W., Investigations on the phylogeny of angiosperms. I. The anatomy of the node as an aid in the classification of angiosperms. *Amer. Jour. Bot.* 1:303-322. *pls.* 30-35. 1914.